Decision Analysis

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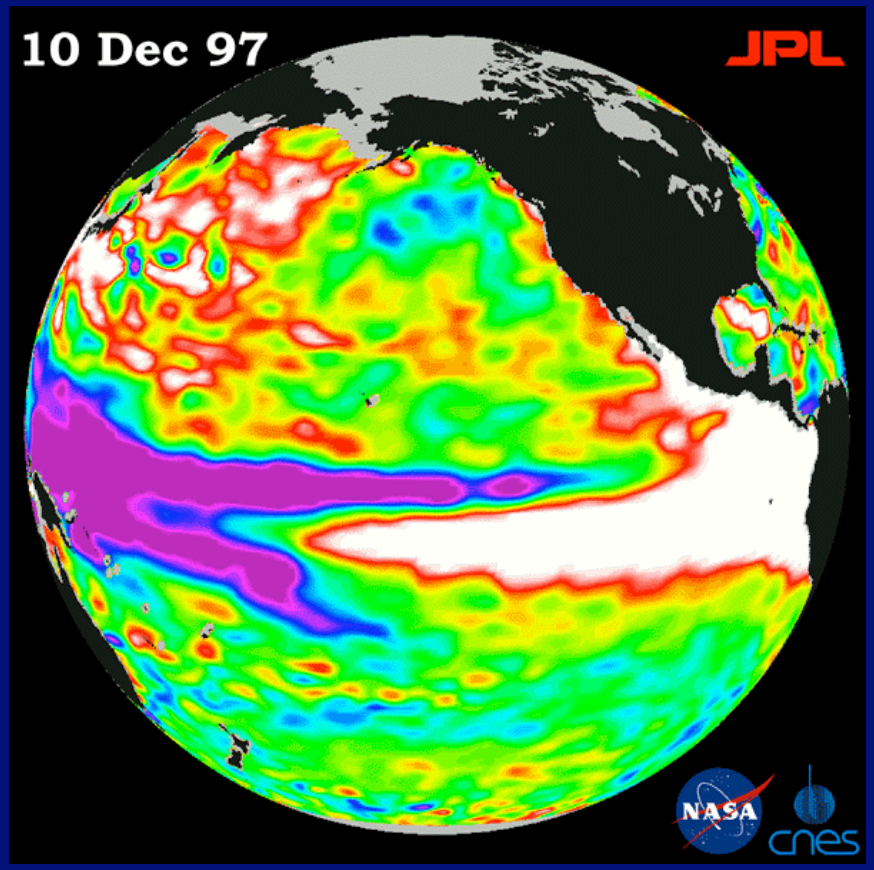
Climate Variations Alter Decision Environments



Encouraging decision makers to respond to even accurate climate forecasts is challenging.

The task requires going well beyond simply producing better climate forecasts.

A Cast of Contributors

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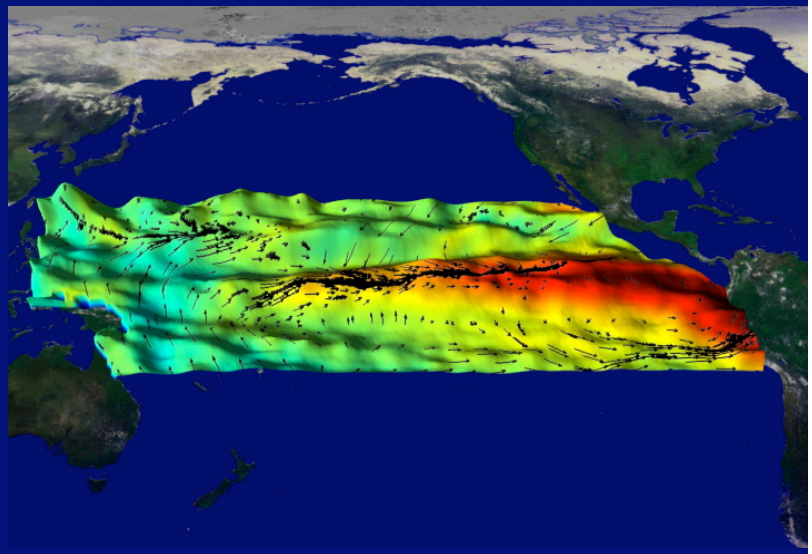
Road Map

1. Role of Decision Analysis in the SECC

2. Goals, Vision, Objectives, Approach

3. Summary of Activities
   a) Economics & insurance
   b) Evaluation and assessment



1. Role of Decision Analysis in the SECC

- To benefit society, climate information must enter a decision making process and affect decisions.
- Climate forecasts should be:
  - integrated into a broader information delivery and decision support system, and
  - supported by an understanding of how information is accessed, understood, evaluated and used.
- *Decision analysis* in the SECC addresses this challenge by integrating economics, public policy, and other social sciences.

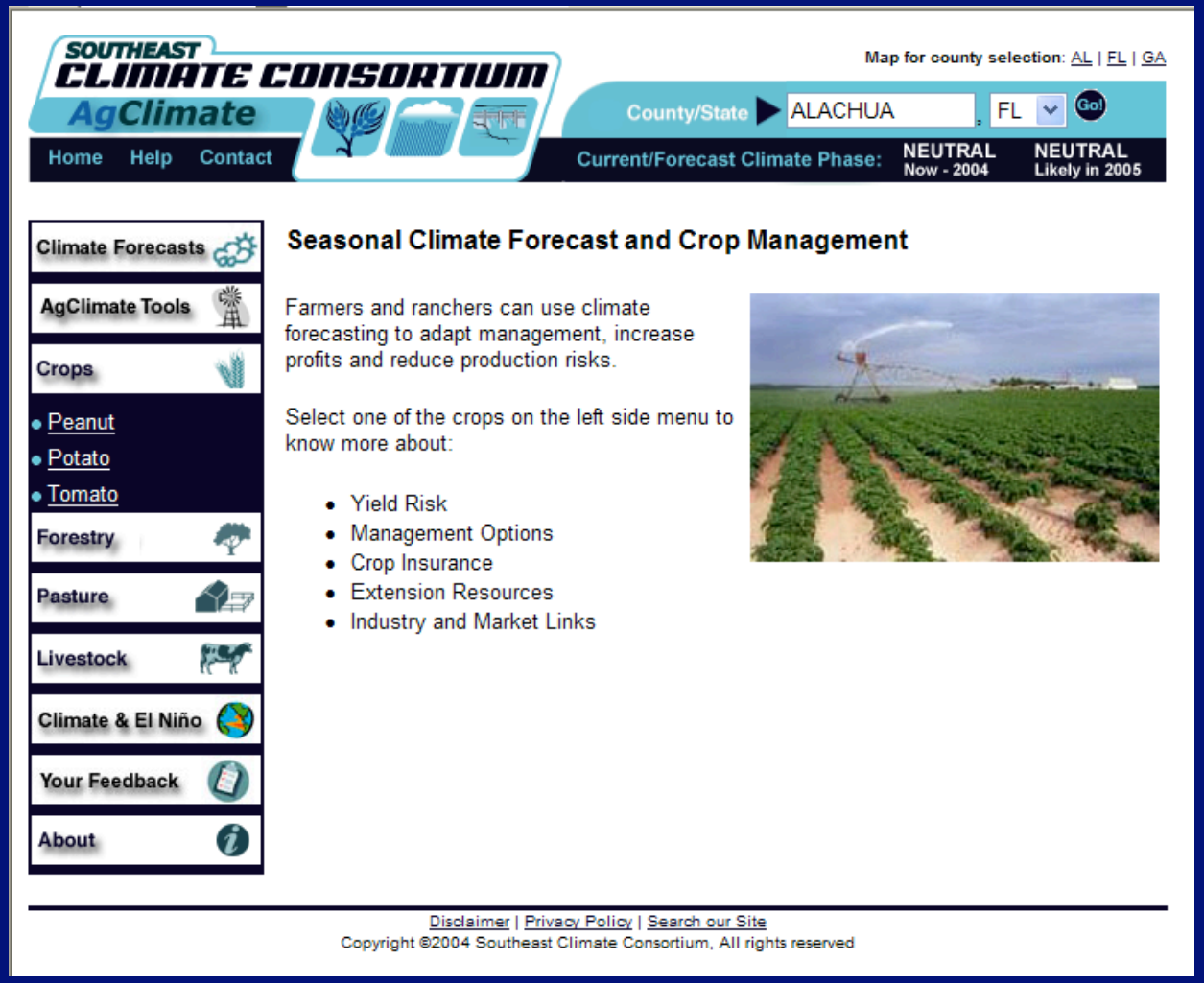
2. Vision, Goal and Objectives

- Our vision is to develop a thorough understanding of the process of decision-making from the stakeholders' point of view and to assess the role that climate information can play in such process.

- The SECC goal is to improve social and economic well being by facilitating the effective use of climate information.

- Specific objectives of *decision analysis* are:
  - a) to enhance our understanding of how people make decisions, the factors involved in each decision, and the constraints that affect the use of climate information; and
  - b) to provide this feedback to researchers who are developing new climate information and decision support systems and to specialists who are designing extension and communication materials to disseminate these tools to end-users.

AgClimate: Risk Information and Decision Support System



Getting here isn't fast or easy.

Much research and outreach must precede development of tools such as these.

3. Summary of Activities

a) Economics & insurance: farm risk modeling

b) Evaluation and assessment

Q: Can Climate Information Raise Farm Incomes?

A: Farm Risk Models Evaluate Climate Information When Farm Programs Matter.

(a) Economics & Insurance

- Farm models identify "optimal" strategies by ENSO phase.
- We use synthetic weather data and crop models to explore "optimal" crop management actions in response to a given ENSO forecast.
- Crop mix, fertilizer amount, and planting date.
- Location, risk aversion, farm programs and commodity prices.

Farm Risk Decision Model

- Integration of Climate, Biophysical, Socioeconomic, and Policy Components in a comprehensive optimization and simulation model.
- To study the impacts of government intervention in the use of ENSO-based climate forecast.
- Research to influence users' decision or government policy making in order to improve socioeconomic well being and reduce risk.

Q: How Do We Know If We Are Actually Helping Anyone?

A: Assessment and Evaluation

(b) Assessment: Documenting 'Success'

- Critical mass of SECC efforts (multiple events, forecast products, *sondeos*, Wx schools, individual interactions, etc.)
- R & D, dissemination decisions driven by indirect measures of success (primarily Extension Service)
- Skeleton team expanding to Water Resources and Georgia
- Facing dissemination choices under different conditions
- Enhancing positive and minimizing negative impacts
- Lessons, representation of achievements, transparency

Recent Assessment Activities

Internet-based Surveys with Extension agents

- Florida
  - Florida survey implemented Nov.-Dec. 2004. 89 responses of 500 agents contacted.
- Georgia
  - The Georgia survey fine-tuned the survey instrument based on the Florida experience Jul.-Aug. 2005. 111 responses of 158 agents contacted.

Sondeo surveys.

- Water issues in the SFWMD
- Climate forecasts knowledge and potential use among small-scale vegetable farmers in North Central Florida.

Making Decisions

Requires the understanding of a wide range of scientific and technical information!

Our research and outreach inform and support decision making.

Check us out online at http://secc.coaps.fsu.edu/